



# 2020-2050 Demand Scenarios for Transportation Electrification

Demand Analysis Working Group Presentation

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# Main Approach for 2050 Scenarios

- Three scenarios
  1. Reference Case
    - Existing policies understood as the current “floor”
  2. Policy-Compliance Case
    - Likely policies based on existing frameworks
  3. Mitigation Case
    - Aggressive policies
- CEC will assess annual vehicle stock, annual vehicle miles traveled, and vehicle energy across scenarios
- E3 will take CEC’s results and determine GHG impacts



# Reference Case Assumptions

- A baseline scenario with a CEC adopted, managed demand forecast, extended to 2050
- Builds from 2021 mid-case vehicle energy demand forecast, extrapolated to 2050
  - Same vehicle attributes and VMT assumptions, extended to 2050
  - Example existing regulations and incentives:
    - Hybrid and Zero-Emission Truck and Bus Voucher Program
    - Clean Vehicle Rebate Program
    - Advanced Clean Trucks
    - Advanced Clean Cars I



# Policy-Compliance Case Assumptions

- Reference scenario adjusted by energy demand associated with an increasing ZEV stock
- ZEV stock adjusted to comply with CARB's proposed standards
  - Advanced Clean Cars II (ACC II) sales requirements, which reach 100% new LD ZEV sales in 2035
    - 10.7% sales for the first half of 2021
  - Advanced Clean Fleets (ACF) requirements
    - 100% ZEV sales by 2040



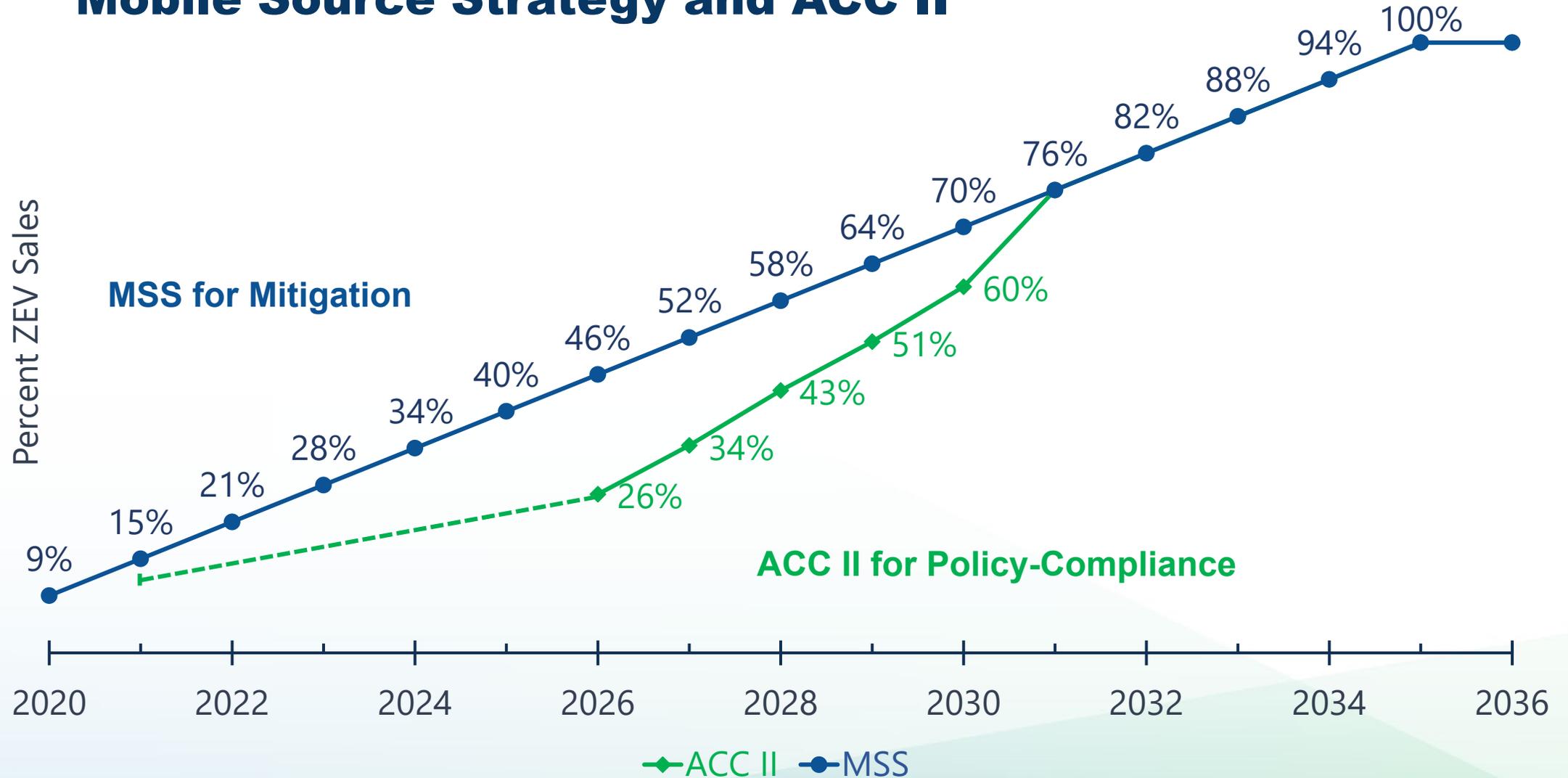
# Mitigation Case Assumptions

- Reference scenario adjusted by energy demand associated with a highly accelerated ZEV stock
- ZEV stock adjusted to comply with more aggressive CARB scenarios
  - 2020 Mobile Source Strategy (2020 MSS) for light-duty vehicles, which reach 100% new LD ZEV sales in 2035
  - 2020 MSS for medium- and heavy-duty
    - 100% MDHD ZEV sales by 2035
  - 2035 ZEV goals where feasible for off-road applications
    - Accelerated transition and turnover where feasible in various off-road sectors



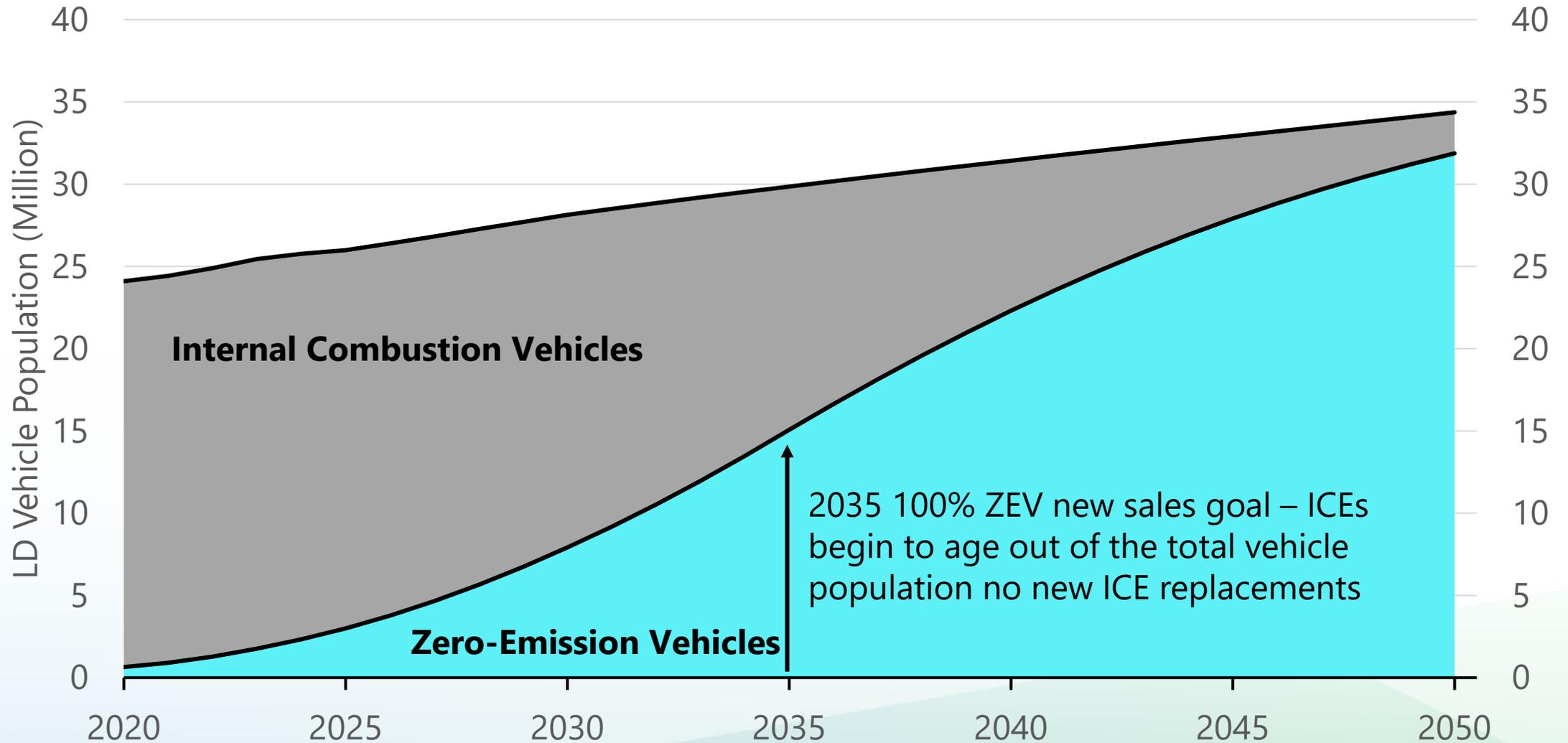
# New Light-Duty ZEV Sales Percentages Under CARB Scenarios

## Mobile Source Strategy and ACC II





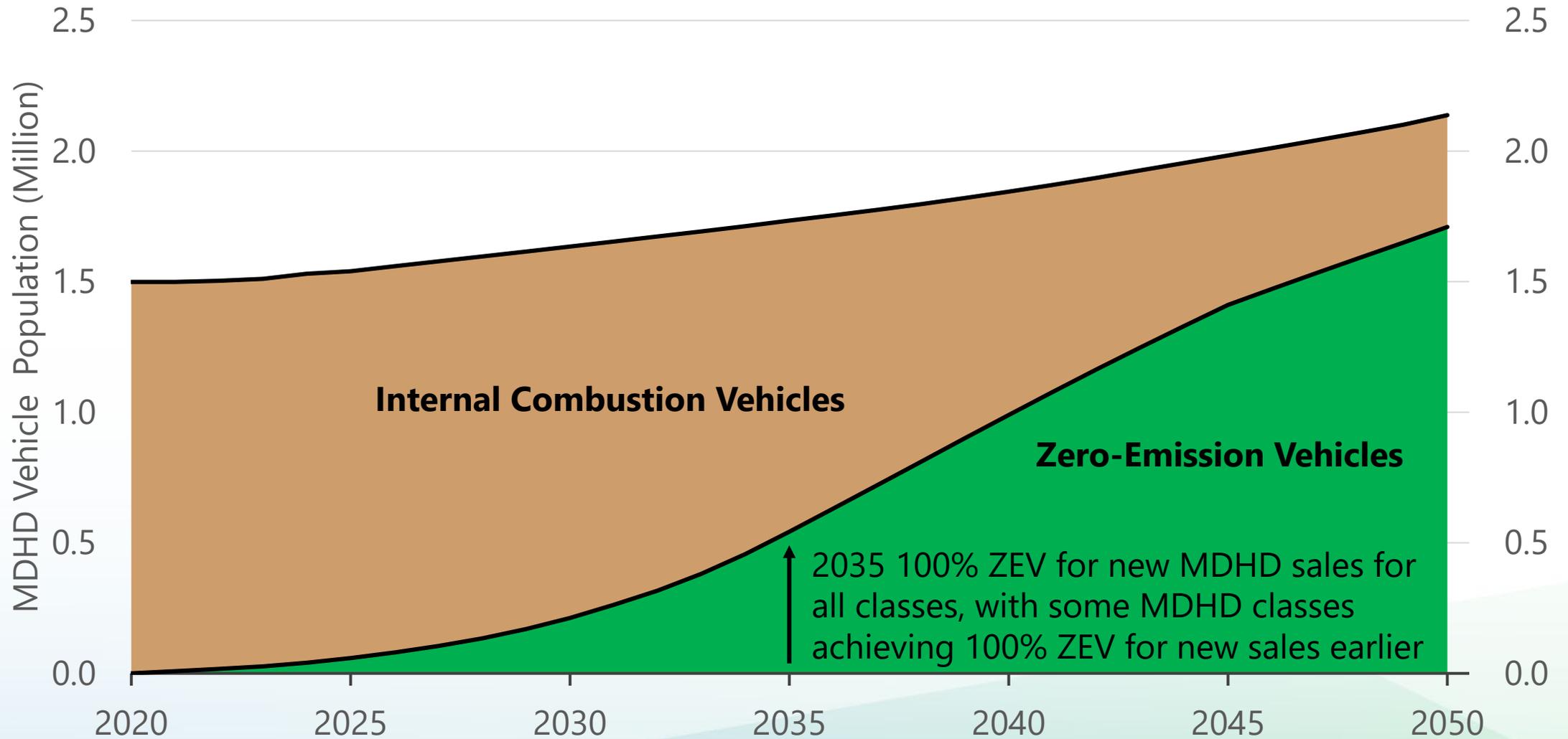
# CARB Mobile Source Strategy (2020 MSS) Light-Duty Vehicle Population





# CARB 2020 MSS

## Medium- and Heavy-Duty Vehicle Population





**Thank You!**

